Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Please amend the claims as follows:

1.   (Currently amended) A method, comprising:

partitioning a cache array into one or more special-purpose entries and one or more general-purpose entries, wherein special-purpose entries are only allocated for one or more streams having a particular stream ID~~, wherein~~ and the stream ID is stored outside the cache array, wherein the special-purpose entries to use a first cache replacement algorithm and the one or more general-purpose entries to use a second cache replacement algorithm;

determining if a cross-access scenario exists between at least one of the one or more special purpose entries and at least one of the one or more general purpose entries; and

if the cross-access scenario exists, permitting cross-access of data between the at least one of the one or more special-purpose entries and the at least one of the one or more general-purpose entries that relate to the cross-access scenario.

2.   (Original)   The method as claimed in claim 1, further comprising allocating the one or more special-purpose entries based on the particular stream ID and a particular input address.

3.   (Original)   The method as claimed in claim 2, further comprising

storing data from the one or more streams in the one or more special-

purpose entries when the particular stream ID and the particular input address

match a predetermined stream ID and a predetermined input address; and

storing data from the one or more streams in the one or more general-

purpose entries when the particular stream ID and the particular input address

do not match the predetermined stream ID and the predetermined input

address.

4.   (Currently amended) The method as claimed in claim 3, further

comprising

determining when the particular stream ID and the particular input

address match the predetermined stream ID and the predetermined input

address using special-purpose control logic; and

using a cache replacement algorithm implemented using general-purpose

control logic for the one or more general-purpose entries.

5.   (Cancelled)

6.   (Previously Presented)   The method as claimed in claim 4, wherein

the one or more streams are special-purpose streams including graphics

streams.

7.   (Currently amended) A device comprising:

a cache memory array partitioned into one or more special-purpose

entries and one or more general-purpose entries, wherein special-purpose

entries are only allocated for one or more streams having a particular stream ID,

wherein the stream ID is stored outside the cache array;

control logic to determine if a cross-access scenario exists between at

least one of the one or more special purpose entries and at least one of the one

or more general purpose entries, wherein the control logic comprises:

special-purpose control logic to store data from the one or more

streams in the one or more special-purpose entries when the particular

stream ID and the particular input address match a predetermined

stream ID and a predetermined input address, the special-purpose

control logic to implement a first cache replacement algorithm for the

one or more special-purpose entries, and

general-purpose control logic to store data from the one or more

streams in the one or more general-purpose entries when the particular

stream ID and the particular input address do not match the

predetermined stream ID and the predetermined input address, the

general-purpose control logic to implement a second cache replacement

algorithm for the one or more general-purpose entries; and

if the cross-access scenario exists, the control logic to permit cross-access

of data between the at least one of the one or more special-purpose entries and

the at least one of the one or more general-purpose entries that relate to the

cross-access scenario.

8.   (Previously Presented)   The device as claimed in claim 7 further

comprising:

the control logic to allocate the one or more special-purpose entries

based on the particular stream ID and a particular input address.

9.   (Canceled)

10.   (Currently amended) The device as claimed in claim 9, wherein the

special-purpose control logic determines when the particular stream ID and the

particular input address match the predetermined stream ID and the

predetermined input address; and the general-purpose control logic implements

a cache replacement algorithm for the one or more general-purpose entries.

11.   (Original)   The device of claim 10, further comprising a DRAM

controller integrated with the cache memory array.

12.   (Original)   The device of claim 11, further comprising an integrated

graphics controller, a host AGP controller, and an I/O hub interface coupled to

the DRAM controller.

13.   (Currently amended) A computer-readable medium having stored

thereon a plurality of instructions, the plurality of instructions when executed by

a computer, cause the computer to perform the method comprising:

partitioning a cache array into one or more special-purpose entries and

one or more general-purpose entries, wherein special-purpose entries are only

allocated for one or more streams having a particular stream ID, wherein and the

stream ID is stored outside the cache array, wherein the special-purpose entries

to use a first cache replacement algorithm and the one or more general-purpose

entries to use a second cache replacement algorithm;

determining if a cross-access scenario exists between at least one of the

one or more special purpose entries and at least one of the one or more general

purpose entries; and

if the cross-access scenario exists, permitting cross-access of data

between the at least one of the one or more special-purpose entries and the at

least one of the one or more general-purpose entries that relate to the cross-

access scenario.

14.   (Original)   The computer-readable medium of claim 13 having stored

thereon additional instructions, the additional instructions when executed by a

computer, cause the computer to further perform the method of allocating the

one or more special-purpose entries based on the particular stream ID and a

particular input address.

15.   (Original)   The computer-readable medium of claim 14 having stored thereon additional instructions, the additional instructions when executed by a computer, cause the computer to further perform the method of

storing data from the one or more streams in the one or more special-purpose entries when the particular stream ID and the particular input address match a predetermined stream ID and a predetermined input address; and

storing data from the one or more streams in the one or more general-purpose entries when the particular stream ID and the particular input address do not match the predetermined stream ID and the predetermined input address.

16.   (Currently amended) The computer-readable medium of claim 15 having stored thereon additional instructions, the additional instructions when executed by a computer, cause the computer to further perform the method of

determining when the particular stream ID and the particular input address match the predetermined stream ID and the predetermined input address using special-purpose control logic; and

using a cache replacement algorithm implemented using general-purpose control logic for the one or more general-purpose entries.

17.   (Cancelled)

18.   (Currently amended) The computer-readable medium of claim 16,

wherein the one or more streams are special-purpose streams including graphics

streams.

19.   (Currently amended) A system, comprising:

means for partitioning a cache array into one or more special-purpose

entries and one or more general-purpose entries, wherein the special-purpose

entries are only allocated for one or more streams having a particular stream ID,

~~wherein~~ and the stream ID is stored outside the cache array, wherein the

special-purpose entries to use a first cache replacement algorithm and the one

or more general-purpose entries to use a second cache replacement algorithm;

means for determining if a cross-access scenario exists between at least

one of the one or more special purpose entries and at least one of the one or

more general purpose entries; and

if the cross-access scenario exists, means for permitting cross-access of

data between the at least one of the one or more special-purpose entries and

the at least one of the one or more general-purpose entries that relate to the

cross-access scenario.

20.   (Original)   The system as claimed in claim 19, further comprising

means for allocating the one or more special-purpose entries based on

the particular stream ID and a particular stream address.

21.   (Original)   The system as claimed in claim 20, further comprising

means for storing data from the one or more streams in the one or more

special-purpose entries when the particular stream ID and the particular input

address match a predetermined stream ID and a predetermined input address;

and

means for storing data from the one or more streams in the one or more

general-purpose entries when the particular stream ID and the particular input

address do not match the predetermined stream ID and the predetermined

input address.

22.   (Currently amended) The system as claimed in claim 21, further

comprising

means for determining when the particular stream ID and the particular

input address match the predetermined stream ID and the predetermined input

address using special-purpose control logic; and

~~means for using a cache replacement algorithm implemented using~~

~~general-purpose control logic for the one or more general-purpose entries~~.

23.   (Cancelled)

24.   (Previously Presented)   The system as claimed in claim 22, wherein

the one or more streams are special-purpose streams including graphics

streams.

25.   (Currently amended) A system, comprising:

a system memory controller, comprising

a cache memory array partitioned into one or more special-

purpose entries and one or more general-purpose entries, wherein

special-purpose entries are only allocated for one or more streams having

a particular stream ID, wherein and the stream ID is stored outside the

cache array, wherein the special-purpose entries to use a first cache

replacement algorithm and the one or more general-purpose entries to

use a second cache replacement algorithm;

control logic, coupled to the cache memory array, the control

logic to determine if a cross-access scenario exists between at least one

of the one or more special purpose entries and at least one of the one or

more general purpose entries;

if the cross-access scenario exists, the control logic to permit

cross-access of data between the at least one of the one or more special-

purpose entries and the at least one of the one or more general-purpose

entries that relate to the cross-access scenario;

and system memory connected to the system memory controller.

26.   (Previously Presented)   The system as claimed in claim 25, further

comprising one or more interfaces connected to the system memory controller,

including

an I/O hub interface connected to a bus,

a processor interface; and

a host AGP controller connected to the system memory controller via the

bus; wherein the cache array receives the cache operation requesting data via

the one or more interfaces, and returns a cache hit in response to the cache

operation, wherein the cache has a pending fetch for the data in response to a

prior cache operation requesting the data.

27.   (Previously Presented)   The system as claimed in claim 26, wherein

the processor interface connects to a processor of a plurality of processors, the

plurality of processors including a 16 bit processor and a 64 bit processor.

28.   (Previously Presented)   The system as claimed in claim 25, wherein

the control logic further comprises:

special-purpose control logic to store data from the one or more streams

in the one or more special-purpose entries when the particular stream ID and

the particular input address match a predetermined stream ID and a

predetermined input address; and

general-purpose control logic to store data from the one or more streams

in the one or more general-purpose entries when the particular stream ID and

the particular input address do not match the predetermined stream ID and the

predetermined input address.

29.   (Currently amended) The system as claimed in claim 28, wherein the special-purpose control logic determines when the particular stream ID and the particular input address match the predetermined stream ID and the predetermined input address; and the general-purpose control logic implements a cache replacement algorithm for the one or more general-purpose entries.

30.   (Currently amended) A device, comprising:

a hub interface to use with a 64-bit processing architecture;

a cache memory array partitioned into one or more special-purpose entries and one or more general-purpose entries; and

control logic to

allocate the one or more special-purpose entries based on a particular stream ID and a particular input address, wherein the stream ID is stored outside the cache array, wherein the special-purpose entries to use a first cache replacement algorithm and the one or more general-purpose entries to use a second cache replacement algorithm;

determine if a cross-access scenario exists between at least one of the one or more special purpose entries and at least one of the one or more general purpose entries;

if the cross-access scenario exists, permit cross-access of data between the at least one of the one or more special-purpose entries and the at least one of the one or more general-purpose entries that relate to the cross-access scenario.

31.   (Previously Presented)   The device as claimed in claim 30, wherein the control logic further comprises:

special-purpose control logic to store data from the one or more streams in the one or more special-purpose entries when the particular stream ID and the particular input address match a predetermined stream ID and a predetermined input address; and

general-purpose control logic to store data from the one or more streams in the one or more general-purpose entries when the particular stream ID and the particular input address do not match the predetermined stream ID and the predetermined input address.

32.   (Currently amended) The device as claimed in claim 31, wherein the special-purpose control logic determines when the particular stream ID and the particular input address match the predetermined stream ID and the predetermined input address; and the general-purpose control logic implements a cache replacement algorithm for the one or more general-purpose entries.

33.   (Previously Presented)   The device of claim 32, further comprising a DRAM controller integrated with the cache memory array.

34.   (Previously Presented)   The device of claim 32, further comprising an integrated graphics controller, and a host AGP controller.

35-40. (Cancelled)